

PATENT ABSTRACTS OF JAPAN

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(54) MINUTE PATTERN FORMING METHOD

(57)Abstract:

PURPOSE: To form a three-dimensional minute pattern of a desired configuration in a simple and reproducible manner by depositing metal using a mask composed of a three-dimensional resist profile obtained by two exposure processes under different conditions.

CONSTITUTION: Positive type photoresist 6 is thickly applied on a GaAs substrate 1, on which an electrode 2 is formed. A converging ion beam is selectively projected, and a desired range of the resist 6 is exposed to a desired thickness. Then an ion beam accelerated by a voltage higher than that in the previous process is projected to the resist 6 in the range where the electrode 2 is formed. The resist 6 is exposed to the interface with the electrode 2. Then, development is performed, and a three-dimensional resist profile is obtained. Thereafter, metal is evaporated, and a metal deposited layer 7 is formed. Lift-off is performed, and a three-dimensional minute pattern is obtained. Thus, reproducibility is improved.

